

Remarks:**The Drawings**

The Examiner objects to the drawings, as not showing every feature of the invention specified in the claims. In particular, the Examiner points to the limitation of claim 20 relating to the line segment connecting contact points of the thin-walled members, and its angular relation to the thin-walled members themselves. Claim 20 has been amended, and recites the following limitation:

[W]herein contact points of the pair of thin-walled members with the inner wall define first and second substantially parallel lines, and wherein a line segment connecting said first and second lines lies at an acute angle relative to the thin-walled members. (Emphasis Added)

Figure 4(b) illustrates a line segment 14 connecting contact points of the thin-walled members 5. As shown in Figure 4, the thin-walled members 5 are disposed at an acute angle relative to line 14. Withdrawal of the objection is therefore respectfully requested.

The Examiner further objects to the limitation relating the line segment connecting the contact points of the thin-walled members, wherein the line segment is oriented substantially perpendicular to the thin-walled members. Although the Examiner has not indicated which claim is objected to, the language appears similar to that of claim 18. Figure 4(a) illustrates a line segment 14 connecting contact points of the thin-walled members 5. As shown in Figure 4(a), the thin-walled members 5 are disposed substantially perpendicular to line 14. Withdrawal of the objection is therefore respectfully requested.

Claim Objections

Claim 4 has been amended to recite “one of the opening covers” rather than “the opening cover,” as suggested by the Examiner.

Claim 19 has been amended by correcting the duplication of the limitation identified by the Examiner.

§112 Rejections

Claims 1 and 17-22 are rejected as being unclear as to whether Applicant is claiming the bolt and reinforcement bar. Applicant is not claiming the bolt or reinforcement bar, and the features are not positively recited in the claims as presently amended.

Further, the Examiner states that it is unclear how the thin wall of the protrusion can extend in the longitudinal direction of the body, and have a ridge line sloping toward the opening cover. Claim 1 has been amended to recite “a longitudinal axis” defined by the hollow body, and that the supporting protrusion extends “substantially parallel” the axis. In one embodiment, each thin walled member is a substantially planar feature, lying substantially in a plane parallel to the longitudinal central axis. This limitation is illustrated in Figures 3(a) and 3(b). As shown, each of the “supporting protrusions” is a pair of inwardly extending projections on the inner wall of the body. These projections are elongate, and extend in a direction that is substantially parallel the longitudinal central axis of the body.

Claim 1 has been further amended to recite that the thin walled members have a ridge line that slopes relative to the inner wall. This relationship between the ridge line and the inner wall is distinct from the relationship between the thin walled members, described above, and the axis of the body. The two claim recitations are not unclear or inconsistent; however, Applicant has amended claim 1 to further emphasize the structural relationship among the various claimed features. When viewed from the side, as shown in Figures 1(a) and 1(b), the thin walled members have a side (the ridge line 7) that decreases in height, or “slopes” toward the inner wall. As shown, the apex 6 is the innermost extending point of the thin-walled members. In a direction from the apex toward the ends of the body, the edge or ridge line 7 clearly slopes toward the inner wall of the body. Accordingly, the thin walled members can extend parallel the longitudinal axis of the body, while at the same time having a specific edge or ridge line that slopes relative to the inner wall, as set forth in claim 1.

Claim 3 stands rejected as unclear as to whether a combination or subcombination is claimed. Applicant has deleted the language of claim 3 deemed problematic by the Examiner.

Claim 6 has been amended by deleting the language deemed problematic by the Examiner. As amended, claim 6 refers to the diameter of the circular hole of the opening cover rather than a diameter of the reinforcing bar.

Claim 7 has been amended by deleting the language deemed problematic by the Examiner, and to recite that the bolt hole is: "proximate and substantially opposite the apexes of the thin walled members."

Claims 8 and 9 have been amended to rectify the problems as to antecedent basis for the term "line segment."

Claims 10 and 11 have been amended to rectify the problems as to antecedent basis regarding the term "angle."

Claim 12 has been amended by deleting some of the language deemed problematic by the Examiner, and includes added functional language "adapted for" to rectify any §112 issues.

Claim 14 has been amended to rectify antecedent basis issues with respect to the term "facing surfaces."

Claims 17-20 are rejected as being unclear as to whether a combination or subcombination is claimed. Applicant has amended the subject claims to make clear that only the sub-combination of the joint itself is actually claimed, not the joint in combination with a bolt or bar, although use therewith is contemplated.

Claims 20 and 21 have been amended to address the language deemed confusing by the Examiner. The angle claimed by Applicant is the angle identified above with respect to the drawing objections (claim 20), and reference is specifically made thereto.

In view of the amendments and remarks set forth herein, all the §112 issues are believed resolved, and withdrawal of the rejections to the above claims is respectfully requested.

§103 Rejections

Claim 1 stands rejected as obvious in view of Abukawa and Yoshioka.

Applicant has amended claim 1 to recite the following limitation:

[W]herein said joint defines an unobstructed space extending between the opening covers and aligned with said central axis, said space having a diameter at all points along a length of said joint that is equal to at least twice a distance between said central axis and apexes of said thin walled members.

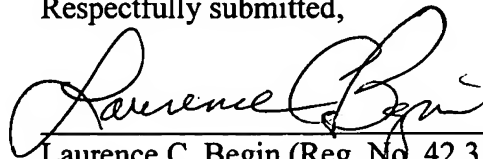
The added limitation has antecedent basis in the drawings, wherein it is shown that an unobstructed space extends between ends of the joint body. This space is shown occupied by rods 12-a and 12-b in Figure 1(a), which in diameter are substantially twice the distance between the body centerline and the apexes of the thin-walled members. By providing an unobstructed space, the rods can be readily passed through the joint, and axially adjusted to minimize the formation of voids in the grout. Moreover, grout can flow readily through the joint. (Specification p. 13, line 6 to page 14, line 14).

In addition, Applicant has limited the design to one having supporting protrusions “at first and second axial positions” on the inner peripheral wall, as shown in the drawings. This feature provides for support for both of the rods supported in the joint. Neither of Abukawa nor Yoshioka, alone or in combination teaches or suggests a joint defining an unobstructed space, as required by claim 1, and having first and second supporting protrusions at different axial positions. The rejection of claim 1 is therefore overcome, and withdrawal of the same is respectfully requested.

Accordingly, passage of the subject application to issue is courteously solicited. Applicant has calculated a small entity fee for a two month extension of time for response of \$210.00, and a check for that amount is enclosed herewith. The Commissioner is hereby authorized to charge any deficiencies or credit any overpayment to Deposit Account No. 04-1311. If the Applicant may be of any further assistance in the prosecution of this Application, the Examiner is invited to contact the undersigned at (248) 364-2100.

Dated: March 2, 2004

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Laurence C. Begin", written over a horizontal line.

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